

ATTACHMENT 8 – QUALITY ASSURANCE

The Quality Assurance (QA) and Quality Control (QC) measures for the following work items listed in the Work Plan are individually addressed by the Task as follows:

Task 1- Thermal Monitoring

Analysis and data gathering of temperature readings from 29 current thermal monitoring sites in the basin plus an additional 25 more. The temperature method requires an isolated temperature monitoring site at a shallow depth and recorded to within 100th of a degree. The method has been pioneered by Dr. Joe Birman and used exclusively by GSi Water to provide information about the location and depth of/to groundwater. The monitoring sites will be maintained and the data also collected by GSi Water staff (see attached bio references from GSi Water, Attachment 8a). GSi Water will follow standard logs for data collection, including time, date, reference point and sampler. All recordings will be referenced back for accuracy of the temperature readings to a certified thermometer or equal method to assure quality and reliability of the data collected. Quarterly reports will be provided and a final report utilizing generally accepted scientific principles, applications, and methods will be provided summarizing the findings of the data gathering, and make any recommendation for further study.

Task 2- CRA Water Spreading via Isotope Evaluation

GSi Water will use stable isotope data from the United States Geological Survey to compare the Colorado River Water Isotopes to the local native waters. The study will take 20 samples from the District currently operational domestic wells, and as available, from the District's CASGEM wells and other sources as applicable. Standards Methods protocol will be followed for all sample taking, preservation and transport. Samples will be collected by GSi Water staff and analysis shall be performed at the University of Arizona-Environmental Isotope Laboratory. Provide a final report utilizing generally accepted scientific principles, applications, and methods will summarize the findings of the sampling and make any recommendation for further study.

Task 3- Water Quality Analysis

Update their report with the most recent and current water quality data available with an emphasis on evaluation of nitrate, salinity and uranium levels in the basin. In addition, data not previously collected from the Coachella Valley Water District will be acquired and incorporated. Update the geomorphic base map with the current data. Provide a final report utilizing generally accepted scientific principles,

applications, and methods will summarize the findings of the sampling and make any recommendation for further study.

Task 4- Recommend Monitoring Well Location(s)

GSI Water will evaluate the water quality data available for the basin and recommend locations and depths for up to three groundwater monitoring wells. They will also assist MSWD in preparation of technical specifications for monitoring well solicitation for bids. The recommendation will be in brief letter format with the information detailed as herein. The technical specifications will consist of review and assistance to MSWD staff in creating the bid specifications with an emphasis on the well design, testing and development materials, methods and procedures. MSWD will utilize generally accepted and approved engineering principles and procedures in preparing the specifications for bid.

NOTE: GSI Water will provide invoicing clearly describing the task completed and attributable to the job position responsible or cost center for outside services for Tasks 1-4 & Task 7 following in sufficient detail to allow the District to pay the invoicing, and for DWR to subsequently approve any grant invoicing requests by MSWD.

Task 5- Study Administration

MSWD will utilize District staff to provide general administration of the project work, oversee and review the work effort of GSI Water in performing the tasks included in the Work Plan with the emphasis on (a) Groundwater Study portion in this first phase of project. Including review and comment before any final reports or documents are produced for dissemination. MSWD staff including its consulting District Engineer, resume enclosed as Attachment 8a, will also be responsible for DWR reporting and documentation of the work effort including invoicing for the work completed under the grant Work Plan. Documentation of the District's staff time will be provided by MSWD to DWR through an invoice with a log of the hours spent and as attributable to the job label ascribed for that position.

Task 6- Monitoring Well Drill and Outfit (1-3)

The District in cooperation with GSI Water as noted in Task 4 will advertise and bid for construction of 1 to 3 monitoring wells. The final project bid costs will determine the actual number of wells contracted for. The successful contractor will be required to meet the standard qualifications for insurances, licensing, bonding and all contractual obligations as noted in the Plans and Specifications. The contractor will drill and install the well(s) per the standards. The finished well(s) meeting the design parameters will be the goal. The District will secure as necessary any permits or licenses not required or obtained by the contractor to drill the well.

Task 7- Geologic Oversight during Well Drilling

Oversight during the well drilling, outfitting and final development will be performed by GSi Water. The well will be drilled and outfitted to the specifications detailed in the contract (standard monitoring well will be equal to or better than the USEPA Standard for Monitoring Wells). Standard E-log, Gamma and Spectral Gamma Logs will be performed along with a temperature study of the well's entire depth. Collect sample data for laboratory analysis to include general, mineral, physical and radiological monitoring. A brief summary report of the well construction, analysis and testing results will be provided.

Task 8- Well Administration

MSWD will utilize District staff to provide general administration of the project work, to oversee and review the work effort of GSi Water and the successful well drilling contractor in performing the tasks included in the Work Plan with the emphasis on (b) Monitoring Well(s) portion in this second phase of project. Including project review and comment before any final reports or documents are produced for dissemination. MSWD staff will also be responsible for DWR reporting and documentation of the work effort including invoicing for the work completed under the grant Work Plan. Documentation of the District's staff time will be providing by MSWD to DWR through an invoice with a log of the hours spent and as attributable to the job label ascribed for that position.

Task 9- Environmental

MSWD will utilize our environmental consultant (Tom Dodson and Associates- Attachment 8a) to perform and assist the District in the environmental determinations appropriate for the project. The CEQA analysis and final determinations and compliance will be provided to DWR.

Task 10- Planning & Design /Soils & Survey

The District in cooperation with our engineering consultant (Michael Thornton) will provide Plans and Specifications for the project utilizing standard and generally accepted engineering principles, and methods for the design of the well(s). Soils report will be prepared by our consultant and the final report included in DWR reporting. Survey of the sites will be completed and subsequent plat and legal descriptions will be prepared

Task 11- Well CM (construction management)

The District staff will provide oversight and inspection onsite during the well construction and development periods.

NOTE: All work completed by the contractor and District consultants will provide invoicing clearly describing the task completed and attributable to the job position responsible or cost center for outside services for Tasks 6 through 11 in sufficient detail to allow the District to pay the invoicing, and for DWR to adequately review and subsequently approve any grant invoicing requests by MSWD.